

CLAIMS

- 1.- A roller ironing machine for clothing articles, characterised in that it comprises at least one ironing unit comprising, in combination:
- 5 • at least one ironing roller (2) rotatably supported and guided on a frame (1) and fitted with heating means to heat its surface;
 - at least one pressing roller (3) rotatably arranged on said frame (1) parallel to said ironing roller (2) and in contact with same, providing an ironing pressure on the clothing articles passing between the pressing roller (3) and the ironing
10 roller (2);
 - at least one endless band (4) mounted on several satellite rollers of the ironing roller (2) embracing an angular portion of the ironing roller (2) in order to accompany the clothing articles maintaining them in contact with the ironing roller (2).
 - 15 • driving means to rotate the ironing roller (2) and/or circulate said endless bands (4).
 - a pair of first inclined planes (5) for the, or each, pressing roller (3), mounted in a static manner on the frame (1) and against which axial journals (3a) or rolling elements extending from opposite ends of the corresponding pressing
20 roller (3) are supported, when pressing roller (3) is in contact with the ironing roller (2);
- wherein said first inclined planes (5) are at an angle (A) with respect to an imaginary plane (Pt) tangential to the ironing roller (2) and the pressure roller (3) along the line of mutual contact, and located in such a way that said axial
25 journals (3a) rest against the first inclined planes (5) by the effect of a force including at least one normal force component (Fn1) derived from the weight (P1) of the pressure roller (3), resulting in an ironing force component (Fp) exerted by the pressure roller (3) against the ironing roller (2) that is greater than said weight (P1) of the pressure roller (3) and a wedge effect favoured by the
30 opposite rotation directions of the ironing roller (2) and the pressure roller (3).
- 2.- A roller ironing machine according to claim 1, characterised in that said various satellite rollers on which said at least one endless band (4) is mounted include the pressing roller (3).

3.- A roller ironing machine according to claim 2, characterised in that a force component derived from a force resulting from a tension (T) of the endless band (4) is added to said force effecting the rest of axial journals (3a) against the first inclined planes (5), giving as a result an ironing force component exerted by the pressing roller (3) on the ironing roller (2) greater than the sum of said weight (P) of the pressing roller (3) and said force resulting from the tension (T) of the endless band (4).

4.- A roller ironing machine according to claim 1 or 2, characterised in that said force effecting the rest of the axial journals (3a) on the first inclined planes (5) further includes a force component derived from a thrusting device selected from a group comprising at least one elastic member, one weight, one fluid dynamic cylinder or combinations thereof.

5.- A roller ironing machine according to any one of the preceding claims, characterised in that the machine comprises a regulating device adapted to vary said inclination angle (A) of the first inclined planes (5) so as to regulate said ironing force component (Fp) according to the desired ironing characteristics.

6.- A roller ironing machine according to claim 3, characterised in that the machine comprises at least a tensor device (6) adapted to provide said tension (T) to the endless band (4).

7.- A roller ironing machine according to claim 6, characterised in that said tensor device (6) comprises a tensing roller (7) included in said satellite rollers, and a pair of second inclined planes (8) mounted in a static manner on the frame (1) and against which axial journals (7a) or rolling elements extending from opposite ends of the corresponding tensing roller (7) are supported, where said second inclined planes (8) are at an angle (B) with respect to the bisectrix of an angle formed by adjacent lengths of the endless band (4) at each side of said tensing roller (7) and placed in such a way that the tension (T) of the endless band (4) is automatically balanced with a force (P2) in a direction away from the second inclined planes (8) applied by a thrusting device or by gravity on the tensing roller (7) and a normal reaction force (Frn2) exerted by the second inclined planes (8) against the axial journals (7a) of the tensing roller (7).

8.- A roller ironing machine according to claim 7, characterised in that said force (P2) is provided by gravity and corresponds to the weight (P2) of the tensing roller (7).

5 9.- A roller ironing machine according to claim 7, characterised in that the machine comprises a regulating device adapted to vary said inclination angle (B) of the second inclined planes (8) so as to regulate the tension (T) of the endless band (4) according to the desired tension characteristics.

10 10.- A roller ironing machine according to claim 1, characterised in that the pressing roller (3) is placed at an adequate height with respect to the ironing roller (2) to facilitate loading of the clothing articles to be ironed through an entrance located at a first side (2a) of the ironing roller (2), and the machine comprises an unload roller (9) located at an adequate height with respect to the ironing roller (2) to facilitate an unloading of the ironed clothing articles through an exit located at a second side (2b) of the ironing roller (2) opposite the first
15 side.

11.- A roller ironing machine according to claim 10, characterised in that said unload roller (9) is included in said satellite rollers.

12.- A roller ironing machine according to claim 10, characterised in that the machine comprises two or more ironing unites connected in series, including
20 a transferring device (10) adapted to transfer the clothing articles from said unloading exit of one of said ironing unites to said loading entrance of another adjacent of the ironing unites.

13.- A roller ironing machine according to claim 12, characterised in that each of said ironing unites is mounted on an independent frame (1) forming
25 modular unites able to be coupled together or with other processing unites for laundry clothing articles.